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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/694,276

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EXAMINER

ECHELMEYER, ALIX ELIZABETH

ART UNIT

PAPER NUMBER

1745

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/694,276

Applicant(s)

JONES, WILLIAM E. M.

Examiner

Alix Elizabeth Echelmeyer

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16,32 and 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16,32 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response

1. This Office Action is in response to the Reply filed March 20, 2007. Claims 17-31 have been cancelled. Claims 1-16, 32 and 33 are pending and are rejected for the reasons given below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8, 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheiky (US Patent 5,615,717) in view of Findl (US Patent 4,247,811).

Regarding claims 1, 32 and 33, Cheiky teaches a method and apparatus for supplying electrolyte to a battery (abstract).

As for claims 2 and 3, Cheiky teaches a supply valve for coupling the supply of electrolyte to the manifold, and a plurality of feed valves.

Regarding claims 4 and 5, a processor is used to control the valves (column 3 lines 14-21). Cheiky further teaches that the control unit is a microprocessor (column 4 lines 12-14).

With regard to claims 6-8, a valve is considered to be a biasing member that is electrically actuable. The microprocessor is used to control the valves.

Cheiky fails to teach an electrolyte level sensor.

Findl teaches a battery sensor that measures the electrolyte level in an aqueous electrolyte cell (abstract). As for claim 8, the sensor is integrated within a control/warning system (column 5 lines 3-9).

Findl teaches that, if the electrolyte level gets too low, the battery becomes unsafe. When the level is below the minimum safety level, the sensor can also determine whether water or electrolyte should be added (column 4 lines 3-8).

It would be desirable to use the sensor of Findl in the battery of Cheiky in order to ensure that the electrolyte level is above a minimum level to ensure safety.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the sensor of Findl in the battery of Cheiky in order to ensure that the electrolyte level is above a minimum level to ensure safety.

4. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheiky in view Findl as applied to claim 1 above, and in further view of Rowan, Sr. et al. (US Patent 5,806,948).

The teachings of Cheiky and Findl as discussed above are incorporated herein.

Cheiky in view of Findl teach an aqueous electrolyte battery having an electrolyte level sensor, but fail to teach a locking ventilated cover for the battery.

Rowan, St. et al. teach a battery cabinet. The cabinet, for containing a battery, comprises a removable door with ventilation to allow air flow to cool the battery and to allow for the release of hydrogen gas (column 3 lines 4-7).

As for claim 10, Rowan, Sr. et al. also teach a padlock to secure the door to the housing (column 11 lines 36-47).

It would be desirable to use the locking cabinet of Rowan, Sr. et al. in the battery of Cheiky in view of Findl in order to provide containment for the battery of Cheiky et al. as well as allow for proper air flow and hydrogen gas release in a secure housing.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the locking cabinet of Rowan, Sr. et al. in the battery of Cheiky in view of Findl in order to provide containment for the battery of Cheiky et al. as well as allow for proper air flow and hydrogen gas release in a secure housing.

5. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheiky in view Findl as applied to claim 1 above, and in further view of Gutlich et al. (US Patent 4,283,467).

The teachings of Cheiky and Findl as discussed above are incorporated herein.

Cheiky fails to teach a charging sensor.

The sensor of Findl also teaches a sensor for measuring state of charge (abstract). Findl also teaches that it is important to monitor the state of charge, since

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when aqueous batteries are at nearly full charge, the electrolyte will decompose (column 4 lines 18-28).

The state of charge sensor of Findl is being interpreted as being capable of measuring whether the battery is charging, since if the state of charge at one point in time was lower than the state of charge at a later point in time, the battery would be in a state of being charged.

It would be desirable to use the sensor of Findl in order to measure the state of charge of Cheiky in order to prevent decomposition of the electrolyte when the battery is nearly fully charged.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the sensor of Findl in order to measure the state of charge of Cheiky in order to prevent decomposition of the electrolyte when the battery is nearly fully charged.

Cheiky in view of Findl fails to teach an air pump

Gutlich et al. teach a battery that includes transport tubes immersed in the electrolyte and connected to compressed air ducts. The air is mixed with the electrolyte to promote circulation (abstract).

Gutlich et al. further teach that mixing yields improved capacity and useful life for the battery (abstract).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to mix the electrolyte of the battery of Cheiky in view of

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Findl using air as taught by Gutlich et al. in order to improve the capacity and useful life of the battery.

6. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheiky in view of Findl and Gutlich et al. as applied to claim 11 above, and further in view of Rowan, Sr. et al.

The teachings of Cheiky, Findl and Gutlich et al. as discussed above are incorporated herein.

Cheiky, Findl and Gutlich et al. teach the battery of claim 11, but fail to teach a locking ventilated cover.

Rowan, St. et al. teach a battery cabinet. The cabinet, for containing a battery, comprises a removable door with ventilation to allow air flow to cool the battery and to allow for the release of hydrogen gas (column 3 lines 4-7).

As for claim 10, Rowan, Sr. et al. also teach a padlock to secure the door to the housing (column 11 lines 36-47).

It would be desirable to use the locking cabinet of Rowan, Sr. et al. in the battery of Cheiky in view of Findl and Gutlich et al. in order to provide containment for the battery of Cheiky as well as allow for proper air flow and hydrogen gas release in a secure housing.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the locking cabinet of Rowan, Sr. et al. in the battery of Cheiky in view of Findl and Gutlich et al. in order to provide containment for

the battery of Cheiky as well as allow for proper air flow and hydrogen gas release in a secure housing.

Response to Arguments

7. Applicant's arguments, see Reply, filed March 20, 2007, with respect to the rejections of claims 1-16, 32 and 33 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made (see above).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pearson (US Pre-Grant Publication 2003/0113599) and Klang (US Patent 6,259,254).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is 571-272-1101. The examiner can normally be reached on Mon-Fri 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's trainer, Susy N. Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alix Elizabeth Echelmeyer
Examiner
Art Unit 1745

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